

Operating room set up

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Operating room set up

- An operating theatre, also known as an operating theatre, operating room (OR) or operating suite,
 - is a facility within a hospital where surgical operations are carried out in a sterile environment

- Operating rooms are spacious, easy to clean, and well-lit
- Operating rooms are generally windowless and feature controlled temperature and humidity
- Electricity support has backup systems in case of a black-out.
- Rooms are supplied with wall suction, oxygen, and possibly other, anesthetic gases



Key equipment

- the operating table
 - in the center of the room can be raised, lowered, and tilted in any direction.
- The operating room lights
 - are over the table to provide bright light, without shadows, during surgery
- tables to set up instruments.
 - Sterile instruments to be used during surgery are arranged on a stainless steel table.
- storage space for common surgical supplies.
- containers for disposables.
- Outside the operating room is a dedicated scrubbing area that is used by surgeons, anesthesiologists, and nurses prior to surgery

- The anesthesia machine
 - is at the head of the operating table.
 - This machine has tubes that connect to the patient to assist him or her in breathing during surgery, and built-in monitors that help control the mixture of gases in the breathing circuit.
- The anesthesia cart
 - is next to the anesthesia machine. It contains the medications, equipment, and other supplies that the anesthesiologist may need.

Surgeon and assistants equipment

- People in the operating room should wear PPE (personal protective equipment) to help prevent germs from infecting the surgical incision
 - Clean scrub suit
 - Clean shoes and slippers and protective covers on their shoes
 - a protective cap covering their hair
 - masks over their lower face, covering their mouths and noses with minimal gaps to prevent inhalation of plume or airborne microbes

- **Surgical team** is made up of:
 - Sterile members or scrubbed personnel
 - work directly in the surgical field.
 - Surgeons, Scrub nurse, O.R. Technician
 - Non-sterile members or unscrubbed personnel.
 - Anesthetists, Circulating nurses, Anesthesia Technicians
 - will not wear a gown in the OR because they are not a part of the sterile team. They must keep a distance of 12-16 inches from any sterile object, person, or field.

Scrubbing

- Scrubbing is done to decrease the bacterial population of the hands.
 - The important thing about scrubbing is not the duration but a meticulous, systematic way of scrubbing the hands, forearms, and the distal third of the arms.
 - It starts from the fingernails, to the hands, wrists, forearms, elbows, and lastly to the distal third of the arms.
- Drying the scrubbed hands
 - Sterile towels are used to dry the scrubbed hands. These towels are discarded after use.



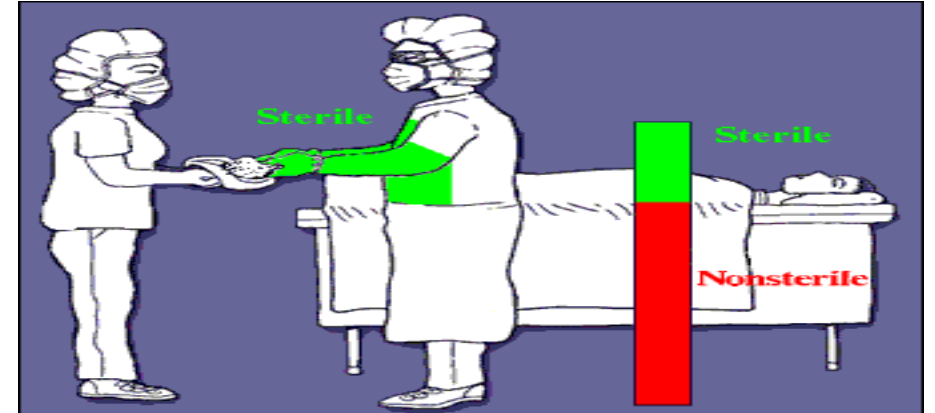
- Gowning
 - A sterile gown must be worn for operations
- Gloving
 - There are two techniques of gloving: 1) the open technique and 2) the closed technique
 - Sterile powder may be used to facilitate gloving.
 - All gloves must be immediately changed once punctured or unsterilized. A circulating nurse should remove the unsterilized gloves making sure she does not touch the sterile surface of the gown of the surgeon.



- Areas of gown considered unsterile are:

- Gown's neckline
- Shoulders
- Under the arms
- Back

- Not to allow the hands or any items **to fall below the level of sterile field**



Prepping the operative field

- The operative field is prepared through the following aseptic technique:
 - mechanical cleansing and scrubbing
 - antiseptic solution
- The extent of preparing depends on the proposed operative field, as well as the areas of possible extension. As a rule, it is better to overprep than to underprep
- The duration or time that maybe considered as adequate prepping with an antiseptic solution is 5 minutes.
- The direction of prepping with an antiseptic solution begins at the areas where the incision will be made and gradually goes outward or peripherally

Draping the operative field

- The proposed field that has been previously prepped is enclosed using sterile towels each folded one-third back on itself. The towels are then stabilized with clips
- To minimize the contamination of sterile operative field as well as the sterile gowns of sterile personnel, the rest of the patient's body and the whole operating table are covered with sterile drapes. It is only after this has been done that the surgeon and his assistants wearing sterile gowns can go near the operating table. Although the patient and the whole table are covered with sterile drapes, only the top surface of the drapes and the area above the table level are considered sterile. Thus, sterile instruments, sterile sleeves and gloves should always be kept above the table level.



Movement around a sterile field must not cause contamination.



- The operative site is the center of the sterile field & all scrubbed personnel should remain close to this area
- Movements can cause contamination to the sterile field.
- Surgical team should move only from sterile areas to sterile areas.
- Change positions –Should turn back to back or face to face & maintain a safe distance close to the sterile field.



- **Un-scrubbed Personnel**

- Remain in non-sterile area to prevent contamination of the sterile field.
 - Always face the sterile field on approach and should never walk between 2 sterile fields.
- Once set up, the sterile field should be monitored constantly and not be left unattended
- Non sterile items should not cross above a sterile field.
- The margin of safety is generally identified as a minimum of 12 inches